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Dry cow management program

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Abstract

Dry cows do not require the intensive daily management of cows in early lactation, but the handling of mastitis treatments, feeding regimen, and grouping are of utmost importance in determining how the cows will perform in the subsequent lactation. The dry period is the time we allow for the cow to regenerate milk-secreting tissue, combat mastitis, and prepare for the next lactation. The body condition of each cow should be moderate before drying off. Each quarter should be treated with a commercial dry cow mastitis treatment, then the cow should be separated from the milking herd for observation and fed a diet specifically formulated for the dry period. The final stages of the dry period are used to prepare the cow for acute changes that occur at calving, including exposure to different feeds, and increasing grain intake 2 weeks before calving. Increased grain intake during the final 2 weeks allows the rumen to adjust so maximal intake of dry matter is achieved sooner after calving. This helps offset the negative energy balance that dairy cows experience during early lactation. Following these general guidelines during the dry period will decrease problems encountered at or near calving, Which, in turn, will allow the cow to reach her maximum genetic potential.; Dairy Day, 1987, Kansas State University, Manhattan, KS, 1987;

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DRY COW MANAGEMENT PROGRAM

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Summary

Dry cows do not require the intensive daily management of cows in early lactation, but the handling of mastitis treatments, feeding regimen, and grouping are of utmost importance in determining how the cows will perform in the subsequent lactation. The dry period is the time we allow for the cow to regenerate milk-secreting tissue, combat mastitis, and prepare for the next lactation.

The body condition of each cow should be moderate before drying off. Each quarter should be treated with a commercial dry cow mastitis treatment, then the cow should be separated from the milking herd for observation and fed a diet specifically formulated for the dry period. The final stages of the dry period are used to prepare the cow for acute changes that occur at calving, including exposure to different feeds, and increasing grain intake 2 weeks before calving. Increased grain intake during the final 2 weeks allows the rumen to adjust so maximal intake of dry matter is achieved sooner after calving. This helps offset the negative energy balance that dairy cows experience during early lactation. Following these general guidelines during the dry period will decrease problems encountered at or near calving, which, in turn, will allow the cow to reach her maximum genetic potential.

Background

Problems incurred at or near the time of calving greatly affect the performance of cows. Dystocia, metritis, ketosis, displaced abomasum, milk fever, fat cow syndrome, mastitis, and various reproductive disorders all restrict a cow from reaching her maximal efficiency. Properly identifying these obstacles and designing a plan of action unique for each herd are essential because no two herds are alike. The feeding and management of the dry cows has great bearing on how well they perform in the subsequent lactation.

General Guidelines of a Dry Cow Program

A good dry cow program must begin before the expected dry date. The dry period should be used for maintaining body condition and as a recuperation period between lactations. Moderate body condition should be attained during late lactation, not during the dry period. The dry period is the proper time to generate body stores because of higher feed efficiency. However, restricting energy intake in late lactation is necessary at times to avoid overly fat cows entering the dry period. But, it is important to remember that feeding below maintenance

requirements during the dry period to reduce body stores can be harmful to the cow and the development of the fetus. Determine a dry-off date from breeding records or pregnancy exams and stay in the range of 46-65 days. Reducing dry periods to fewer than 40 days does not allow enough time for milk-producing cells to regenerate in the mammary glands. Longer than 80 days increases the chances of clinical mastitis and metabolic disorders. Your goal should be 50-60 days. Cows that conceive before 85 days postpartum should be dried-off near the 60-day mark and those that conceive after 85 days, nearer the 50-55 day mark. On the day of dry off, the cow should be milked out completely and treated in each quarter with an approved dry cow antibotic infusion treatment using good sanitary procedures. Flexible collodion for the final teat dip sets up a more lasting barrier to help decrease rate of re-infection during the critical first 2 weeks of the dry period.

Dipping teats twice a day for the first 10 days of the dry period also helps prevent re-infection, but is not always practical. After dry treatment, cows should be moved from milking herd into a separate pen for dry cows, where they are fed separately from the milking herd and observed daily. Problem cows with mastitis should be remilked and retreated as necessary. The feeding program should meet the maintenance requirements of the cow and unborn calf. Severe deficiencies or excesses of energy, protein, minerals, or vitamins can result in more metabolic disorders at or near time of calving.

The nutrient requirements for dry cows are summarized in Table 1. The best feed for dry cows is long, dry hay, grass, or cereal hay. Alfalfa should be avoided because of its high calcium content that predisposes the cow to milk fever at calving time. Dry cows need only 0.97 lb salt per day, which can be provided in the grain mix that supplements the hay. If more salt is fed, it can lead to excessive udder edema. Allowing dry cows free access to granular salt and minerals can lead to a dietary imbalance. Supply the proper amount of nutrients to meet their requirements with forage and a grain mix that has the mineral package to complement the forage.

Table 1. Nutrient requirements of dry cows

Ingredient	First 6 weeks		Last 2 weeks
	Body Condition 4	Thin	
Protein, % D.M.	11	11	12
NE_L, Mcal/lb D.M.	0.50	0.65	0.65
ADF, %	27	24	24
NDF, %	35	32	32
Calcium, %	0.45	0.45	0.45
Phosphorus, %	0.35	0.35	0.35
Trace Salt, %	0.25	0.25	0.25
Vitamin A, U/lb D.M.	1500	1500	1500
Vitamin D, U/lb D.M.	750	750	750
Vitamin E, U/lb D.M.	7	7	7

About 2 weeks before expected calving date, grain intake of the cow should be gradually increased to a total of 1% of her body weight by the day of calving. The other consideration during the warmup period is introducing any ensiled feed currently fed to the milking string. Warming up or challenge feeding the dry cow allows the rumen microbial population to adjust to the higher grain intake and fermented feed that will be fed at freshening.

Cows should be observed closely prior to calving for problems such as severe edema, swollen quarters, or going off feed. At time of calving, the cow should be isolated to a clean, freshly bedded maternity pen, and assistance should be rendered if needed. Immediately after calving, worming of the cow should be performed to remove internal parasites. If mastitis is a problem at freshening and handling of the nearly term cow is possible, pre-dipping for 10-14 days before calving will aid in preventing new infections. At Kansas State University, the dry period is also the time when we vaccinate our herd. This point should be discussed with your local veterinarian to determine its feasibility in your herd.